

PATENT APPLICATION

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re application of

Docket No: Q79404

Hiroaki KISHIOKA, et al.

Appln. No.: 10/765,359

Group Art Unit: 1794

Confirmation No.: 1537

Examiner: Anish P. Desai

Filed: January 28, 2004

For: DOUBLE-SIDED PRESSURE-SENSITIVE ADHESIVE SHEET AND TOUCH PANEL-
PROVIDED DISPLAY DEVICE

SUBMISSION OF APPEAL BRIEF

MAIL STOP APPEAL BRIEF - PATENTS

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Submitted herewith please find an Appeal Brief. The statutory fee of \$540.00 is being remitted. The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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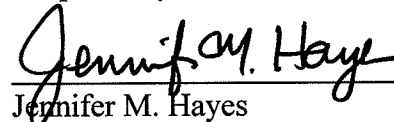
WASHINGTON DC SUGHRUE/265550

65565

CUSTOMER NUMBER

Date: November 22, 2010

Respectfully submitted,



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APPEAL BRIEF UNDER 37 C.F.R. § 41.37

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Sir:

In accordance with the provisions of 37 C.F.R. § 41.37, Appellant submits the following:

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I. REAL PARTY IN INTEREST

The real party in interest is NITTO DENKO CORPORATION of Osaka, Japan.

II. RELATED APPEALS AND INTERFERENCES

Appellants, Appellants' legal representative and the Assignee of this application are not aware of any other appeals or interferences which may be related to, directly affect or be affected by, or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 1, 2, 5 and 6 are pending in the application.

Claims 3 and 4 have been canceled.

Claims 1, 2, 5 and 6 are rejected.

This an appeal from the Examiner's rejection of claims 1, 2, 5 and 6 under 35 U.S.C. §112, 1st paragraph for lack of enablement; from the rejection of claims 1, 2 ad 5 under 35 U.S.C. § 103 as being obvious over Kishioka (US 2002/0098352) in view of Hitoshi et al (EP 0930322A2); and from the rejection of claim 6 under 35 U.S.C. § 103(a) as being obvious over Kishioka et al in view of Hitoshi et al and further in view of Okabe et al.

IV. STATUS OF AMENDMENTS

The status of all amendments filed after final rejection is as follows:

The Supplemental Amendment submitted on September 30, 2010, further to the Amendment filed on September 16, 2010, is the last response submitted with amendments to the claims of the application. The Amendments filed on September 16, 2010 and September 30, 2010 have been entered as indicated by the Advisory Actions mailed September 30, 2010 and November 9, 2010, respectively.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

Independent claim 1 recites a double-sided pressure-sensitive adhesive sheet to be used in sticking and fixing a touch panel to a display surface of a display device. Specification, page 4, line 26 to page 5, line 3. One surface of the double-sided pressure-sensitive adhesive sheet is capable of being adhered substantially entirely on the touch panel, and the other surface is capable of being adhered substantially entirely on the display surface of the display device. Specification, page 5, lines 3-5. The double-sided pressure-sensitive adhesive sheet has at least two pressure-sensitive adhesive layers but does not have a substrate, and has optical isotropy. Specification, page 5, lines 7-12. The double-sided pressure-sensitive adhesive sheet has a thickness of 10 to 50 μm . Specification, page 32, line 8.

The pressure-sensitive adhesive layer in the touch panel side has a 180°-peeling adhesive strength (to a norbornene based resin film at a peeling rate of 300 mm/min at 23°C) of 5.5 N/20 mm or more, and the pressure-sensitive adhesive layer in the display device side has a 180°-peeling adhesive strength (to a glass plate or a triacetyl cellulose film at a peeling rate of 300 mm/min at 23°C) of not more than 5.0 N/20 mm so that the double-sided pressure-sensitive adhesive sheet is repeatedly peelable from the display surface of the display device together with the touch panel. Specification, page 15, lines 10-19.

The respective pressure-sensitive adhesive layers each comprise an acrylic polymer containing a (meth)acrylic acid alkyl ester in which the alkyl moiety thereof has from 1 to 18

carbon atoms as the major monomer component selected from the group consisting of methyl (meth)-acrylate, ethyl (meth)-acrylate, propyl (meth)-acrylate, isopropyl (meth)-acrylate, butyl (meth)-acrylate, isobutyl (meth)-acrylate, s-butyl (meth)-acrylate, t-butyl (meth)-acrylate, pentyl (meth)-acrylate, hexyl (meth)-acrylate, heptyl (meth)-acrylate, octyl (meth)-acrylate, isooctyl (meth)-acrylate, 2-ethylhexyl (meth)-acrylate, nonyl (meth)-acrylate, isononyl (meth)-acrylate, decyl (meth)-acrylate, isodecyl (meth)-acrylate, undecyl (meth)-acrylate, and dodecyl (meth)-acrylate. Specification, page 22, line 5 to page 23, line 6. The major monomer for the respective pressure-sensitive adhesive layers is constituted from the same monomer. Specification, the paragraph bridging pages 21-22 and Example 1. The proportion of the major monomer component constituting each pressure-sensitive adhesive layer is 80% by weight or more based on the whole amount of the monomer components. Specification, page 35, lines 21-24.

Claims 2, 5 and 6 depend directly, or indirectly, from claim 1.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The grounds of rejection to be reviewed, including the statute applied, the claims subject to each rejection and the references relied upon by the examiner are as follows:

Claims 1, 2, 5 and 6 under 35 U.S.C. §112, first paragraph, as allegedly being nonenabled by the specification.

Claims 1, 2 and 5 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Kishioka (US 2002/0098352 A1) ("Kishioka") in view of Hitoshi et al. (EP 0930322A2) (EP '322).

Claim 6 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Kishioka in view of EP '322 as applied to claims 1, 2 and 5 above, and further in view of Okabe et al. (JP 07-105781).

VII. ARGUMENT

- 1. The rejection of claims 1, 2 and 5 under 35 U.S.C. § 112, 1st paragraph for lack of enablement should be reversed because the Examiner has not met his burden of establishing the claimed invention requires undue experimentation.**

Claims 1, 2, and 5 are rejected under 35 U.S.C. § 112, first paragraph, allegedly because the specification does not reasonably provide enablement for both PSA layers having the same composition.

The Examiner maintains that the difference in the adhesive strength as claimed can be achieved by (A) providing both PSA layers with the same adhesive composition (i.e., each PSA layer is formed of the same monomer and weight % of the monomer in each PSA layer is the same). According to the Examiner, in this arrangement, since each adhesive layer is bonded to glass or triacetal cellulose); the adhesive strengths of each adhesive will be different or (B) both PSA layers have different adhesive strengths because each PSA is formed of a different composition (i.e., each PSA layer is formed of the same monomer, except that weight % of the monomer in each layer is different).

It is the Examiner's position that specification is only enabling for the situation/embodiment described in (B), but the claims are broader in scope such that the situation/embodiment described by (A) is also encompassed by the scope of claim 1. Therefore, the Examiner asserts that the specification does not enable any person skilled in the art to which

it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope (i.e., situation/embodiment described by (a)) with these claims.

Appellants respectfully disagree.

The specification is enabled for both embodiments (A) and (B) set forth by the Examiner. Specifically, the claim language states “wherein at least one pressure-sensitive adhesive layer of the pressure sensitive adhesive layer of the pressure-sensitive adhesive layers of both outer sides has a 180°-peeling adhesive strength (to a glass plate or triacetyl cellulose film at a peeling rate of 300 mm/min at 23°C) of not more than 5.0 N/20 mm”. That is, in the case of the outer adhesive layer to a glass plate and in the case of the outer adhesive layer to a triacetyl cellulose film, the peeling strength is the same, i.e., not more than 5.0 N/ 20 mm. This is described in the specification in the paragraph bridging pages 14-15.

Moreover, it is described in the specification that it is preferable that the 180°-peeling adhesive strength (to a norbornene based resin film at a peeling rate of 300 mm/min at 23°C) of the pressure-sensitive adhesive layer in the touch panel side is larger than the 180°-peeling adhesive strength (to a glass plate or triacetyl cellulose film at a peeling rate of 300 mm/min at 23 °C) of the pressure-sensitive adhesive layer in the display device side. Specifically, the 180°-peeling adhesive strength (to a norbornene based resin film at a peeling rate of 300 mm/min at 23°C) of the pressure-sensitive adhesive layer in the touch panel side is preferably 5.5 N/20 mm or more (for example, from 5.5 to 25 N/20 mm), and more preferably 6.0 N/20 mm or more (for example 6.0 to 20 N/20 mm). Thus, the peeling strength may be different.

Even further, the specification at page 20, line 22 to page 21, line 4 states, “the pressure-sensitive adhesive forming the pressure-sensitive adhesive layer in the touch panel side, the pressure-sensitive adhesive forming the pressure-sensitive adhesive layer in the display device side, and the pressure-sensitive adhesive of forming other pressure-sensitive adhesive layer (intermediate pressure-sensitive adhesive layer) may be the same kind of pressure-sensitive adhesive or different kinds of pressure-sensitive adhesives among them.”

The specification further teaches at the paragraph bridging pages 28-29 that “in the case where the pressure-sensitive adhesive layer in the touch panel side and the pressure-sensitive adhesive layer in the display device side are each formed of an acrylic pressure-sensitive adhesive, by employing a method such as a method of lowering the proportion of the modifying monomer (functional group-containing copolymerizable monomer) as far as possible, a method of making the crosslinking structure minute using a relatively large amount of the crosslinking agent, and a method of using a surfactant, it is possible to make the adhesive strength of the pressure-sensitive adhesive layer in the display device side to the display surface of the display device lower than the adhesive strength of the pressure-sensitive adhesive layer in the touch panel side to the sticking surface of the touch panel.”

Moreover, the specification teaches “it is preferable that the adhesive strength of each of the pressure-sensitive adhesive layer in the display device side and the pressure-sensitive adhesive layer in the touch panel side is controlled by lowering the proportion of the functional group-containing copolymerizable monomer as far as possible. In that case, it is desirable that

the proportion of the functional group-containing copolymerizable monomer is in the range of not more than 5% by weight, preferably not more than 3% by weight) based on the whole amount of the monomer components.”

Thus, in order to achieve either embodiment, the specification provides sufficient guidance and it is within the knowledge and skill of the skilled artisan to adjust the composition of the outer adhesive layers, whether the monomer and weight % of the monomer in each PSA layer is the same or different, without undue experimentation, to achieve the desired result, both of which are within the scope of the invention and enabled by the specification.

Accordingly, Appellants respectfully request withdrawal of the rejection.

2. **The rejection of claims 1, 2 and 5 under 35 U.S.C. §103(a) as being unpatentable over Kishioka in view of EP ‘322 and the rejection of claim 6 under 35 U.S.C. § 103(a) as being unpatentable over Kishioka in view of EP ‘322 and further in view of Okabe et al should be reversed because the Examiner has not made a *prima facie* showing of obviousness.**

The present invention is directed to a double-sided PSA sheet having the following features: (1) at least two PSA layers; (2) no substrate; (3) optical isotropy; (4) thickness of 10 to 50 μm ; (5) PSA layer in the touch panel side having a 180°-peeling adhesive strength (to a norbornene based resin film at a peeling rate of 300 mm/min at 23°C) of 5.5 N/20 mm or more; (6) PSA layer in the display device side having a 180°-peeling adhesive strength (to a glass plate or a triacetyl cellulose film at a peeling rate of 300 mm/min at 23°C) of not more than 5.0 N/20

mm; (7) the double-sided pressure-sensitive adhesive sheet is repeatedly peelable from the display surface of the display device together with the touch panel; (8) each PSA layer comprises an acrylic polymer containing (meth)acrylic acid alkyl ester in which the alkyl moiety has from 1 to 18 carbon atoms selected from the monomers recited in claim 1; (9) the major monomer for the respective PSA layers is constituted from the same monomer; and (10) the major monomer component constituting each PSA layer is 80% by weight or more based on the whole amount of the monomer components.

Appellants have pointed out that at least the combination of features (5) and (6) is not taught or suggested by any of the cited references. The Examiner takes the position that these features are believed to be present in the double-sided PSA tapes of Kishioka as modified by EP '322. However neither of these references, teaches or even mentions the adhesive strength of a PSA layer in the touch panel side and the adhesive strength of a PSA layer in the display device side. Further, neither of these references teaches or suggests the relationship of the different adhesive strengths of the PSA layer on the touch panel side and the PSA layer on the display panel side, wherein the adhesive strength of the PSA layer on the touch panel side is higher than the peeling strength of the PSA layer of the display side, i.e., 5.5 N/20 mm or more vs. not more than 5.0 mm, respectively. For at least this reason, the cited references do not teach or suggest the claimed invention, whether taken alone or in combination.

The Examiner's position that these features are believed to be present in the double-sided PSA tapes of Kishioka as modified by EP '322 is based on the assertion that the PSA tapes of Kishioka as modified by EP '322 are structurally and compositionally equivalent. However, Appellants submit that the Examiner is not correct in this regard.

First, the thickness of the total double-sided PSA sheet of the claimed invention is 10 to 50 μm . Kishioka teaches the thickness of the PSA layer in the range of from 5 to 500 μm and more preferably in the range of from about 10 to 100 μm . Kishioka does not specifically teach the total thickness of a double-sided PSA sheet having at least two PSA layers. There are thousands of possible combinations of the thicknesses of the two PSA layers and there is no apparent reason to choose two or more PSA layers, each having a thickness within the very broad range taught by Kishioka, such that the total thickness would be within the claimed range of 10 to 50 μm .

EP '322 also teaches the thickness of the PSA layer and fails to teach or suggest the total thickness of a double-sided PSA sheet having at least two PSA layers. EP '322 teaches that the PSA layer has a thickness of from 10 to 100 μm . There are thousands of possible combinations of the thicknesses of two PSA layers having a thickness within the range taught by EP '322 and there is no apparent reason to choose two or more PSA layers, each having a thickness within the range taught by EP '322, such that the total thickness would be within the claimed range of 10 to 50 μm .

The total thickness of 10 to 50 μm leads to excellent optical characteristics as can be seen from Examples 1 and 2 in Table 1 of the specification. Thus, even if Kishioka and EP '322 were combined, one of ordinary skill in the art would not *necessarily* arrive at the claimed total thickness range and therefore, for at least this reason, it cannot be said that the PSA tape of Kishioka modified by EP '322 would be structurally equivalent to the present invention.

Further, even if Kishioka and EP '322 were combined, the PSA tape of Kishioka modified by EP '322 would not be compositionally equivalent to the claimed invention. Present claim 1 requires that the major monomer in the PSA layers is the same monomer. The Examiner states that Kishioka is relied on as teaching that both PSA layers are formed of the same monomer at paragraph [0065]. However, there is no disclosure in this portion of Kishioka (or any other portion) indicating that the PSA layers are formed of the same monomer. Therefore, Appellants submit that the Examiner is mistaken.

EP '322 also fails to teach or suggest that the major monomer in the PSA layers is the same monomer. Also, the disclosure of EP '322 at paragraph [0036] cannot be fairly interpreted as reading on a double-sided adhesive sheet having at least two PSA layers and no substrate, since this portion of EP '322, specifically teaches "the layer of the pressure-sensitive adhesive is stuck to one surface or both surfaces of the base material and . . . can be used as a pressure sensitive adhesive sheet having the base material."

Thus, it cannot be said that the PSA tape of Kishioka modified by EP '322 would be compositionally equivalent to the claimed invention.

Since the PSA tape of Kishioka modified by EP '322 would not be structurally and compositionally equivalent to the claimed invention for the reasons set forth above, the properties recited in the claims are not necessarily present as it has been established that inherency cannot be based on probabilities or possibilities.

Okabe also fails to teach or suggest at least the combinations of features (5) and (6) above and therefore, even if combined with Kishioka and EP '322, the present invention would not have been achieved.

In view of the above, the Examiner has not set forth a reasonable basis for asserting that all elements of the claimed invention are taught or suggested and therefore has not made a *prima facie* showing of obviousness. Specifically, the Examiner relies at least in part on a theory of inherency, but has not provided a reasonable technical basis for asserting that the combined teachings of the references would necessarily result in the claimed invention as a whole.

The combination of Kishioka et al and EP '322 would not *necessarily* result in the claimed thickness of the PSA sheet, the same monomer as the major component in each of the PSA layers and/or the amount of the major monomer component. Consequently, the combination of Kishioka et al and EP '322 would not *necessarily* result in a double-sided PSA tape having the claimed peeling adhesive strengths. Additionally, the Examiner is not properly

considering the claimed invention as a whole, but is instead improperly considering obviousness of individual elements of the claims. Moreover, Okabe et al does not remedy the deficiencies of Kishioka et al and EP '322 for the reasons of record and therefore, even if combined with Kishioka and EP '322, the present invention would not have been achieved.

In view of the above, the present invention as recited in claim 1 is not rendered obvious by the cited references, whether taken alone or in combination.

Accordingly, the §103 rejections should be reversed.

VIII. CONCLUSION

The statutory fee (37 C.F.R. §41.37(a) and 1.17(c)) is being remitted. The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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CUSTOMER NUMBER

Date: November 22, 2010

Respectfully submitted,



Jennifer M. Hayes

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CLAIMS APPENDIX

CLAIMS 1, 2, 5 and 6 ON APPEAL:

1. **(previously presented):** A double-sided pressure-sensitive adhesive sheet to be used in sticking and fixing a touch panel to a display surface of a display device, one surface of the double-sided pressure-sensitive adhesive sheet is capable of being adhered substantially entirely on the touch panel, and the other surface is capable of being adhered substantially entirely on the display surface of the display device, wherein the double-sided pressure-sensitive adhesive sheet has at least two pressure-sensitive adhesive layers but does not have a substrate, and has optical isotropy; and wherein the double-sided pressure-sensitive adhesive sheet has a thickness of 10 to 50 μm ,

wherein the pressure-sensitive adhesive layer in the touch panel side has a 180°-peeling adhesive strength (to a norbornene based resin film at a peeling rate of 300 mm/min at 23°C) of 5.5 N/20 mm or more, and the pressure-sensitive adhesive layer in the display device side has a 180°-peeling adhesive strength (to a glass plate or a triacetyl cellulose film at a peeling rate of 300 mm/min at 23°C) of not more than 5.0 N/20 mm so that the double-sided pressure-sensitive adhesive sheet is repeatedly peelable from the display surface of the display device together with the touch panel, and

wherein the respective pressure-sensitive adhesive layers each comprise an acrylic polymer containing a (meth)acrylic acid alkyl ester in which the alkyl moiety thereof has from 1 to 18 carbon atoms as the major monomer component selected from the group consisting of methyl (meth)-acrylate, ethyl (meth)-acrylate, propyl (meth)-acrylate, isopropyl (meth)-acrylate, butyl (meth)-acrylate, isobutyl (meth)-acrylate, s-butyl (meth)-acrylate, t-butyl (meth)-acrylate,

pentyl (meth)-acrylate, hexyl (meth)-acrylate, heptyl (meth)-acrylate, octyl (meth)-acrylate, isooctyl (meth)-acrylate, 2-ethylhexyl (meth)-acrylate, nonyl (meth)-acrylate, isononyl (meth)-acrylate, decyl (meth)-acrylate, isodecyl (meth)-acrylate, undecyl (meth)-acrylate, and dodecyl (meth)-acrylate, and the major monomer for the respective pressure-sensitive adhesive layers is constituted from the same monomer and the proportion of the major monomer component constituting each pressure-sensitive adhesive layer is 80% by weight or more based on the whole amount of the monomer components.

2. **(previously presented):** The double-sided pressure-sensitive adhesive sheet according to claim 1, which has from three to five pressure-sensitive adhesive layers.
3. **(canceled).**
4. **(canceled).**
5. **(original):** The double-sided pressure-sensitive adhesive sheet according to claim 1, which is used for fixing a display device to a touch panel in the inner touch panel system.
6. **(previously presented):** A touch panel-provided display device, wherein a display device and a touch panel are fixed to each other via the double-sided pressure-sensitive adhesive sheet according to any one of claims 1, 2 and 5.

EVIDENCE APPENDIX

Pursuant to 37 C.F.R. § 41.37(c)(1)(ix), submitted herewith are copies of any evidence submitted pursuant to 37 C.F.R. §§ 1.130, 1.131, or 1.132 or any other evidence entered by the Examiner and relied upon by Appellant in the appeal.

None.

APPEAL BRIEF UNDER 37 C.F.R. § 41.37
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RELATED PROCEEDINGS APPENDIX

Submitted herewith are copies of decisions rendered by a court or the Board in any proceeding identified above in Section II pursuant to 37 C.F.R. § 41.37(c)(1)(ii).

None.